APPLICATION FOR CONSENT TO CONDUCT MARINE SCIENTIFIC RESEARCH
IN AREAS UNDER NATIONAL JURISDICTION OF
UNITED KINGDOM

Date: 31/07/06

1 - GENERAL INFORMATION

1.1. Cruise name and/or number: ***SEDHETE***

1.2. Sponsoring institutions:

1/ Name:: *INSU CNRS*
Adress : *3 à 5, rue Michel Ange*
75794 PARIS CEDEX 16
Phone : *00.33 (0)1.44.96.40.00* *Fax : 00 33 (0)1.44.96.49.75*
Director : *Sylvie Joussaume*

1.3. Scientist in charge of the project:

Name: *Olivier Blanpain*
Address: *DYNECO/EB, centre IFREMER de Brest*
BP 70,
29280 Plouzané
Phone : *+33 2 98 22 44 75* *Fax : +33 2 98 22 45 94*
e-mail: *olivier.blanpain@ifremer.fr*

1.4. Scientist from United Kingdom involved in the planning of the project:

None

1.5. Submitting officer:

Name: *Olivier Quedec*
Address: *Centre Ifremer de Brest - Secteur Programmation Flotte*
B.P. 70 - 29280 Plouzané
Phone : *+33 2 98.22.40.03* *Fax : +33 2.98.22.44.55*
e-mail: *olivier.quedec@ifremer.fr*

2 - DESCRIPTION OF THE PROJECT

2.1. Nature and objectives of the project:

The aim of the project is to determine fine grain dynamics in coarse sediment matrices. Three types of in situ observations are planned in order to reach this objective:

- *Bottom sedimentary features will be determined using high resolution side-scan sonar imagery and bed load sampling.*
- *Deployment of a benthic tripod for a few hours at four locations will allow us to get current and Suspended Particulate Matter (SPM) concentration data through the bottom boundary layer. In addition, sediment profile images will be acquired.*
- *Undisturbed sediment cores will be sampled at the same four locations by divers.*

These in situ data will be used for the MODECOGEN project (modélisation générique des écosystèmes côtiers) to configure a sediment transport model applied to the English Channel.

2.2. Relevant previous or future research cruises:

- TRANSAT, 27/08/2002 – 31/08/2002

- DISPRO 9, 02/11/2002 – 06/11/2002

- DISPRO 10, 21/11/2002 – 25/11/2002

- DISPRO 11, 11/06/2002 – 16/06/2002

- DISPRO 12, 08/08/2003 – 12/08/2003

- DISPRO 05, 03/04/2005 – 11/04/2005

2.3. Previously published research data relating to the project:

Bailly du Bois P., 2000. Représentation continue des classes granulométriques des sédiments superficiels de la Manche à partir des travaux de Larsonneur (1971). Rapport IRSN/DPRE/SERNAT/ 2000-23, 14 p.

Bailly du Bois P., Dumas F., 2002. Dissolved radionuclide measurements used for qualitative and quantitative calibration of hydrodynamic models in the English Channel and the North Sea; validation of "TRANSMER" model. Proceedings of 34th International Liege Colloquium on Ocean Hydrodynamics, Tracer Methods in Geophysical Fluid Dynamics, Liege 6-10 May 2002 p. 7.

Bailly du Bois P., 2004. Construction du fichier bathymétrique du modèle hydrodynamique DISPRO (dispersion d'effluents dans le champ proche d'un émissaire de rejet en mer). Rapport IRSN/DEI/SECRE/ 2004-01 17 p.

Bailly du Bois P., Dumas F., 2004. Hydrodynamic modelling of short, medium and long-term dispersion in macro-tidal seas: validation by high-resolution radionuclide tracer measurements for improvement of operational tools. JCOMM Technical Report, OCEAN OPS 04 abstracts 10-14 mai 2004, p. 83.

Bailly du Bois P., Dumas F., 2004. Modélisation hydrodynamique de la dispersion à court terme dans une mer macrotidale : validation par des mesures à haute résolution de radiotraceurs solubles. VIIIè Journées Nationales Génie Civil - Génie Côtier, Compiègne 7-9 septembre 2004 Session 1, p. 139-146.

Bailly du Bois P., Dumas F., 2005. Fast hydrodynamic model for of medium- and long-term dispersion in seawater in the English Channel and southern North Sea, qualitative and quantitative validation by radionuclide tracers. Ocean Modelling Vol 9/2 pp 169-210.

Bailly du Bois P., Dumas F., Solier L., 2005. Hydrodynamic modelling of short-term dispersion in a macro-tidal sea, validation by high-resolution radionuclide tracer measurements. Radioprotection, Proceedings ECORAD 2004 "The scientific basis for environment protection against radioactivity" Aix-en-Provence (France), 6-10 september, 2004. Edited by: J.C. Barescut, J.C. Gariel and J.M. Péres 40(1):563-568.

Bailly du Bois P., 2005. Qualification du modèle de dispersion dans le champ proche de l'émissaire de rejet en mer de l'établissement COGEMA La Hague, DisPro V.1.. Rapport IRSN/DEI/SECRE 2005-59 66 p.

Brenon I., Le Hir P., 1999. Modelling the turbidity maximum in the Seine estuary (France): identification of formation processes. Estuarine Coastal and Shelf Science, 49 (4), 525-544.

Cugier P., Le Hir P., 2000. Three dimensionnal modelling of suspended matters in the eastern "baie de Seine" (English Channel, France). Comptes Rendus de l'Académie des Sciences, Série II, 331 (4), 287-294.

Cugier P., 2000. Développement d'un modèle numérique multicouche hétérométrique pour la simulation du transport sédimentaire en Manche ; Caractérisation des principaux processus. Rapport scientifique, IPSN/DPRE/SERNAT/2000-24, 97 p.

Dupont J.P., Collins M.B., Lafite R., Nash L., Shimwell S.J., Brunet C., Huault M.F., Lamboy M., Shaddock S., 1993. Annual variations in suspended particulate matter within the Dover Strait. /Oceanologica Acta/, 16, 5-6, 507-516.

Ehrhold A., 1999. Dynamique de comblement d'un bassin sédimentaire soumis à un régime mégatidal: exemple de la baie du Mont-Saint-Michel. Thèse de l'Université de Caen Basse Normandie, 294 p.

Garnaud S., Lesueur P., Clet M., Lesourd S., Garlan T., Lafite, R., Brun-Cottan, J-C., 2003. Holocene to modern fine-grained sedimentation on a macrotidal shoreface-to-inner shelf setting (Eastern Bay of the Seine, France). /Marine Geology/.

Grochowski N., Collins M.B., Boxall S.R., Salomon J.C., Breton M., Lafite R., 1993. Transport pathways in the Eastern English Channel. /Oceanologica Acta/, 16,5-6,531-537.

Lafite R., Shimwell S., Grochowski N., Dupont J.P., Nash L., Salomon J.C., Cabioch L., Collins M., Gao S., 2000 Suspended particulate matter through the Straits of Dover, English Channel (La Manche) , /Oceanologica Acta, 6, 687-700./

Nozière F., 2001. Caractérisation granulométrique des faciès sédimentaires de la Manche dans le but de contribuer à l'élaboration d'un inventaire quantitatif des radionucléides dans les sédiments de la Manche. Rapport de stage IPSN-LERFA - INTECHMER 64p.

Olivier C., 2004. Développement d'un modèle numérique multicouche hétérométrique pour la simulation du transport sédimentaire en Manche ; détermination de l'équation de transport par des mesures de canal en laboratoire. Rapport scientifique, IRSN/DEI/SECRE/2004-2, 98 p.

Struski C., 1999. Création d'une base de données cartographiques de la répartition des espèces vivantes et de l'exploitation du milieu marin de la manche. Rapport de stage IPSN-LERFA 66p.

Vaslet D., Larsonneur C., Auffret J.P., 1979. Les sédiments superficiels de la Manche 1/500000. Carte géologique de la marge continentale Française. Bureau de Recherches Géologiques et Minières, Centre National pour l'Exploitation des Océans.

Velegrakis A.F., Gao S., Lafite R., Dupont J.P., Huault M.F., Nash L.A., Collins M.B., 1997. Resuspension and advection processes affecting suspended particulate matter concentrations in the central English Channel, /Journal of Sea Research/, 38, 17-34.
Velegrakis A.F., Michel D., Lafite R., Dupont J.P., Huault M.F., Oikonomou E.K., Lecouturier M., Bishop C., Salomon J.C., Collins M.B., 1999. Suspended particulate matter investigations along a cross-section (Wight-Cotentin transect) of the Central English Channel. /Continental Shelf Research/, 19, 1933-1957
Waeles, B., 2005.Modélisation morphodynamique de l'embouchure de la Seine. Thèse de l'Université de Caen Basse Normandie, 230 p.
Walker P., 2001. Dynamique sédimentaire dans le golfe Normand-Breton. Thèse de l'Université de Caen Basse Normandie, 288 p.

3 - METHODS AND MEANS TO BE USED

3.1. Particular of vessel

Name: RV/ Côtes de la Manche
Nationality: French
Owner: CNRS/INSU
Operator: DT. INSU (Mr A. Montier), BP 330, 83507 LA SEYNE SUR MER
Overall length: 24.90m
Maximum draught: 3.60m
Net tonnage: none *Gross tonnage: 144.36 tons b.*
Propulsion: Diesel 1300CV at 1650 rpm
Cruising speed: 12 knots *Maximum speed: 12 knots*
Call sign: FQBE
Method and capability of communication (including telex, frequencies):
BLU-1605-4000KHz *VHF RT 2048-156-174 MHz*
Name of master:
Number of crew: 7
Number of scientists on board: 8

3.2. Aircraft or other craft to be used in the project:

None

3.3. Particulars of methods and scientific instruments:

Types of samples and data	Methods to be used	Instruments to be used
Sediment cores	*divers*	
Bed load sampling	*In-board instruments*	*Hamon grab*
Facies imaging	*In-board instruments*	*Side-scan sonar*
Current measurements	*Moored tripod instruments*	*ADCP + ADV*
SPM measurements	*Moored tripod instruments*	*OBS + Niskin bottles*
Sediment profile imagery	*Moored tripod instruments*	*Video camera*

3.4. Indicate whether harmful substances will be used:

No

3.5. Indicate whether drilling will be carried out:

No

3.6. Indicate whether explosives will be used:

No

4 - INSTALLATIONS AND EQUIPMENTS

Details of installations and equipments (dates of laying, servicing, recovery, exact *locations* and depth)

No equipment will be left at sea.

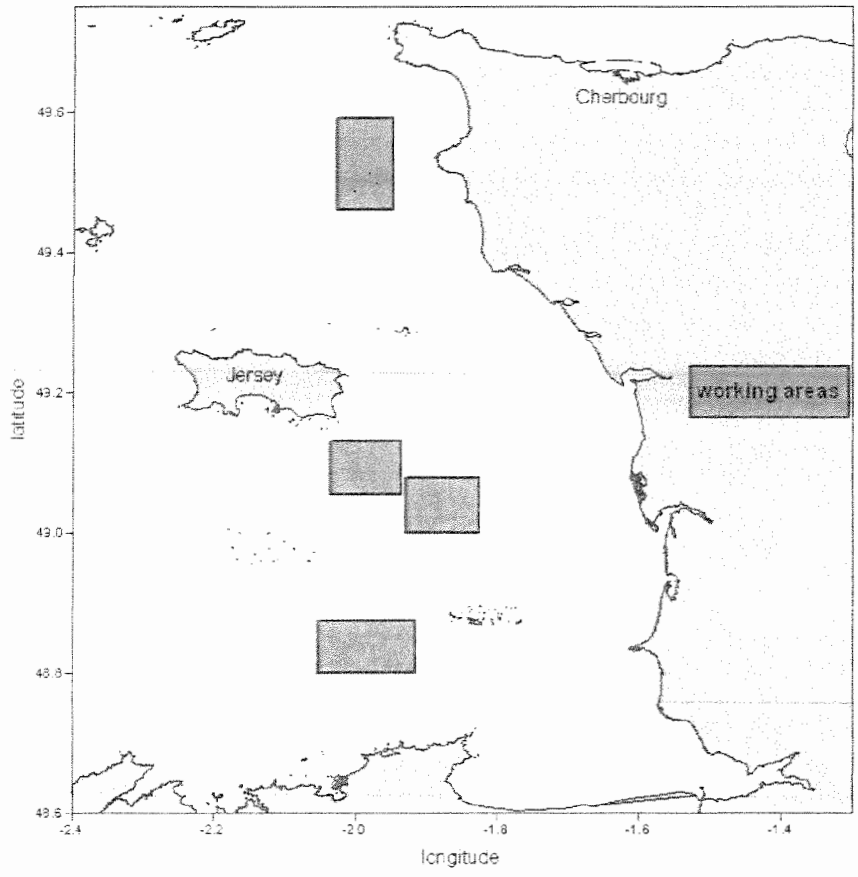
5 - GEOGRAPHICAL AERAS

5.1. Indicate geographical areas in which the project is to be conducted (with reference in latitude and longitude):

Channel Island area:

Longitude range: *48°80'N - 49°60'N*
Latitude range: *1°80'W - 2°10'W*

5.2. Attach chart(s) at an appropriate scale showing the geographical areas of the intended work and, as far as practicable, the positions of indented stations, the tracks of survey lines, and the locations of installations and equipment:



Location of the main sites to be investigated

6 - DATES

6.1 Expected dates of first entry into and final departure from the research area of the research vessel:

Entry *Date:* *10/03/2007*

Departure *Date:* *31/03/2007*

6.2 Indicate if multiple entry is expected:

Yes

7 - PORTS CALLS

7.1. Dates and names of intended ports of call in United Kingdom.

Depending of weather conditions:
Alderney : Braye harbour
Guernsey : St Peter Port
Jersey : St Helier

7.2. Any special logistical requirements at ports of call:

No (mainly permutation of scientific team and equipment)

7.3. Name/Address/Telephone of shipping agent (if available)

8 - PARTICIPATION

8.1. Extent of which United Kingdom will be enabled to participate or to be represented in the research project:

Participation of an observer or an active scientist from United Kingdom is welcome.

8.2. Proposed dates and ports for embarkation/disembarkation:

Start	*Date:*	*10/03/2007*	*Cherbourg*
End	*Date:*	*31/03/2007*	*Cherbourg*

9 - ACCESS TO DATA, SAMPLES AND RESEARCH RESULTS

9.1. Expected dates of submission to United Kingdom of preliminary reports, which should include the expected dates of submission of the final results:

July 2007

9.2. Proposed means for access by United Kingdom to data and samples:

Data files will be available on request.

9.3. Proposed means of making research internationally available:

Publications in international scientific papers.

Appendix

List of the scientific team

Provisional

Pascal Bailly du Bois	(IRSN-LRC)
Olivier Blanpain	(IRSN-LRC and IFREMER-DYNECO-EB)
Philippe Cugier	(IFREMER-DYNECO-EB)
Axel Ehrhold	(IFREMER-DYNECO-EB)
Jean Dominique Gaffet	(IFREMER-DYNECO-EB)
Xavier Caisey	(IFREMER-DYNECO-EB)
Michel Lunven	(IFREMER-DYNECO-PELAGOS)
Erwan Le Gall	(IFREMER-DYNECO-PELAGOS)
Xavier Philippon	(IFREMER-DYNECO-PELAGOS)
Philippe Cann	(IFREMER-DYNECO-PHYSED)
DUGORNAY Olivier	(IFREMER-DCOM)
Damien Calluaud	(UMR M2C Caen)
Dominique Mouaze	(UMR M2C Caen)